

I claim:

1. A Tat-based vaccine composition comprising at least one antigen coupled to at least one immunostimulatory lentivirus trans-activator of transcription (Tat) molecule.

2. The Tat-based vaccine composition of claim 1 wherein said antigen comprises a full length protein or a fragment thereof.

3. The Tat-based vaccine composition of claim 1 wherein said antigen is a cancer antigen or an infectious disease antigen.

4. The Tat-based vaccine composition of claim 3 wherein said cancer antigen is an antigen associated with cell growth.

5. The Tat-based vaccine composition of claim 3 wherein said cancer antigen is human papilloma virus E7.

6. The Tat-based vaccine composition of claim 1 wherein said immunostimulatory lentivirus Tat is oxidized human immunodeficiency virus-1 (HIV-1) Tat.

7. The Tat-based vaccine composition of claim 1 wherein said immunostimulatory lentivirus Tat is the HIV-1 Tat wherein the amino acid proline at positions 6, 10 and 14 of SEQ ID NO. 1 is replaced with the amino acid glycine.

8. The Tat-based vaccine composition of claim 1 wherein said immunostimulatory lentivirus Tat comprises the amino acid sequence of SEQ ID NO. 11.

9. The Tat-based vaccine composition of claim 1 wherein said immunostimulatory lentivirus Tat and said antigen are linked through genetic engineering of their DNA to provide a recombinant protein.

10. A method for treating disease comprising administering at least one Tat-based vaccine composition to a patient in need thereof.

11. The method for treating disease according to claim 10 wherein said administering at least one Tat-based vaccine composition to a patient in need thereof further comprises administering said at least one Tat-based vaccine composition for the treatment of cancer.

12. The method for treating disease according to claim 10 wherein said administering at least one Tat-based vaccine composition to a patient in need thereof further comprises administering said at least one Tat-based vaccine composition for the treatment of infectious disease.

13. A Tat-based vaccine composition comprising immunostimulatory lentivirus Tat.
14. The Tat-based vaccine composition of claim 13 further comprising at least one antigen wherein said antigen is a full length protein or a fragment thereof.
15. The Tat-based vaccine composition of claim 13 wherein said immunostimulatory lentivirus Tat is oxidized HIV-1 Tat.
16. The Tat-based vaccine composition of claim 13 wherein said immunostimulatory lentivirus Tat is HIV-1 Tat wherein the amino acid proline at positions 6, 10 and 14 of SEQ ID NO. 1 is replaced with the amino acid glycine.
17. The Tat-based vaccine composition of claim 13 wherein said immunostimulatory lentivirus Tat comprises the amino acid sequence of SEQ ID NO. 11.